FOREST SURVEY RELEASE No.1
(Preliminary)

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# FOREST RESOURCES of PENDLETON, POCAHONTAS and RANDOLPH COUNTIES WEST VIRGINIA

*U.S. Department of Agriculture*
*Forest Service*

Northeastern Forest Experiment Station

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## FOREWORD

The Forest Survey is conducted on a nation-wide basis by the Forest Service. Its fivefold purpose is: (1) to make a field inventory of the present supply of timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which it is being diminished through industrial and domestic uses, windfall, fire, disease, and other causes; (4) to determine the present consumption of timber and other forest products and the probable future trend in requirements; and (5) to interpret these findings and correlate them with existing and anticipated economic conditions, to aid in formulating both private and public policies for the effective and rational use of land suitable for forest production.

This report is the first of a series presenting the findings of the Forest Survey on forest area and timber volumes. Field work in these three counties was begun in September 1946 and completed in May 1947. Similar reports will be issued for other counties or county groups as the statistics are compiled. These releases will be supplemented by an analytical report for the State of West Virginia in which the findings of the Forest Survey on forest area, volume, growth, and drain will be interpreted to present a picture of the current forest situation and that in prospect.

Owing to the sampling method used in collecting the data in this release, relatively large items are likely to be more accurate than smaller ones. A small tabular item should not be considered as showing the exact magnitude of the class but only the relative magnitude in comparison with other classes.

The Forest Survey in West Virginia is conducted by the Northeastern Forest Experiment Station in cooperation with the West Virginia Conservation Commission. This statistical report is the work of the:

FOREST SURVEY

DIVISION OF FOREST ECONOMICS

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FOREST RESOURCES OF PENDLETON, POCAHONTAS, AND RANDOLPH COUNTIES, WEST VIRGINIA

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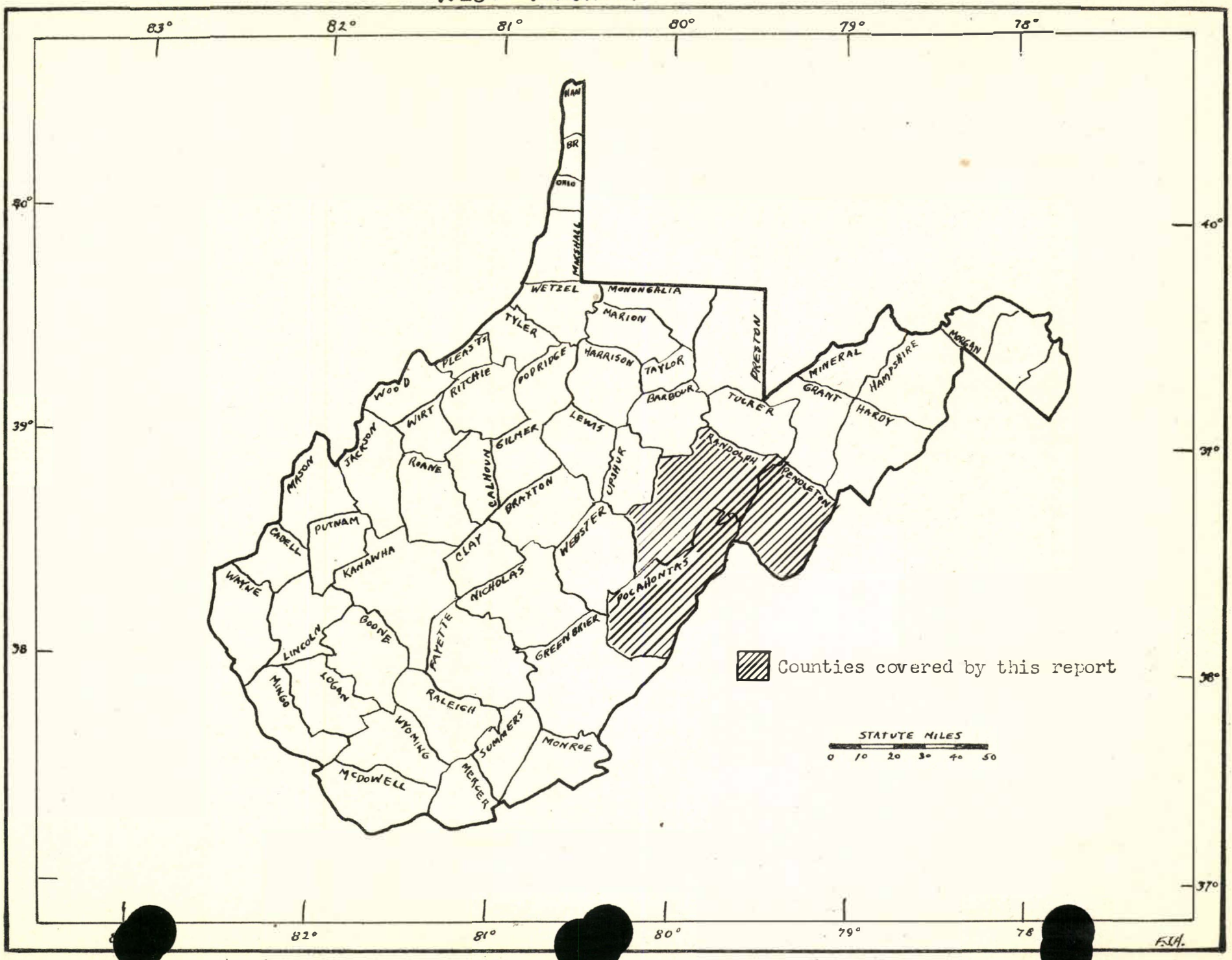
# WEST VIRGINIA



FOREST RESOURCES OF PENDLETON, POCAHONTAS, AND RANDOLPH COUNTIES
WEST VIRGINIA

## SIGNIFICANT FINDINGS

Pendleton, Pocahontas, and Randolph counties embrace 1,711,300 acres of land in eastern West Virginia. Nearly four-fifths of this area or 1,341,900 acres is in forest (see Table 1).

Nearly half of the forest area is in the northern hardwood type and two-fifths in oak types (see Table 2).

| Forest types | Acres | Percent |
|---|---|---|
| Pine-hardwood | 61,100 | 5 |
| Spruce-fir-hardwood | 92,700 | 7 |
| Northern hardwood | 611,800 | 46 |
| Chestnut oak | 139,900 | 10 |
| Oak 1/ | 430,400 | 32 |

1/ Incorrectly called "white oak" type in Tables.

More than half of the forest area is in saw-timber stands and a third is in pole timber (see Table 2). The proportions in various stand-size classes vary considerably by counties:

| Stand-size class | Pendleton | Pocahontas | Randolph |
|---|---|---|---|
| Medium saw timber | 30 | 15 | 11 |
| Light saw timber | 40 | 40 | 34 |
| Pole timber | 22 | 36 | 41 |
| Seedling and sapling | 5 | 7 | 10 |
| Poorly-stocked stands and unstocked areas | 3 | 2 | 4 |

The total saw-timber volume in these counties exceeds five billion board feet. Practically all of this volume is in saw-timber stands (see Table 5):

| Stand-size class | M board feet | Percent |
|---|---|---|
| Medium saw timber | 2,189,400 | 43 |
| Light saw timber | 2,155,800 | 43 |
| Pole timber | 696,900 | 14 |
| Other stands | 15,000 | Neg. |

There are nearly 4½ billion board feet of hardwoods in these counties (see Table 11). The principal hardwoods are:

| | M board feet |
|---|---|
| Red oak | 948,100 |
| Chestnut oak | 686,900 |
| Beech | 526,800 |
| Hard maple | 447,800 |
| Yellow birch | 429,300 |

The principal softwoods are:

| | M board feet |
|---|---|
| Spruce | 342,200 |
| White pine | 119,000 |
| Hemlock | 116,800 |

Nearly 40 percent of the hardwood saw timber but only about 10 percent of the softwood saw timber is in trees 19 inches and larger.

Altogether there are 25 million cords of material in trees 5 inches and larger in these counties, including nearly 2 million cords in cull trees. In addition there are approximately 700,000 cords of material in noncommercial species such as sassafras, blue beech, and pin cherry.

Table 1.--Area of forest and nonforest land by county, 1947

| County | Forest land | | Nonforest land | | All land |
|---|---|---|---|---|---|
| | Acres | Percent | Acres | Percent | Acres |
| Pendleton | 338,500 | 76 | 106,300 | 24 | 444,800 |
| Pocahontas 1/ | 477,000 | 79 | 126,500 | 21 | 603,500 |
| Randolph 1/ | 526,400 | 79 | 136,600 | 21 | 663,000 |
| All counties | 1,341,900 | 78 | 369,400 | 22 | 1,711,300 |

1/ Includes 3,000 acres of noncommercial forest land in each county

Table 2.--Area of commercial forest land by county, forest type, and stand size, 1947

PENDLETON COUNTY

| Stand-size | Forest type | | | | | All forest types |
|---|---|---|---|---|---|---|
| | Pine-hardwood | Spruce-fir hardwood | Northern hardwood | Chestnut oak | White oak | |
| | Acres | Acres | Acres | Acres | Acres | Acres |
| Medium saw-timber | 10,700 | 8,300 | 32,200 | 10,700 | 38,100 | 100,000 |
| Small saw-timber | 4,600 | --- | 22,900 | 64,200 | 45,900 | 137,600 |
| Pole-timber | 25,300 | --- | 19,200 | 2,000 | 27,400 | 73,900 |
| Seedling and sapling | 4,000 | --- | 4,000 | --- | 7,900 | 15,900 |
| Poorly-stocked stands and unstocked areas | --- | 6,700 | 4,400 | --- | --- | 11,100 |
| All stands | 44,600 | 15,000 | 82,700 | 76,900 | 119,300 | 338,500 |

POCAHONTAS COUNTY

| | | | | | | |
|---|---|---|---|---|---|---|
| Medium saw-timber | --- | 17,600 | 38,400 | 4,800 | 9,600 | 70,400 |
| Small saw-timber | 8,900 | 13,300 | 79,700 | 22,100 | 66,400 | 190,400 |
| Pole-timber | 3,900 | 3,900 | 84,700 | 11,800 | 64,300 | 168,600 |
| Seedling and sapling | --- | --- | 19,500 | 4,900 | 9,800 | 34,200 |
| Poorly-stocked stands and unstocked areas | --- | 5,200 | 5,200 | --- | --- | 10,400 |
| All stands | 12,800 | 40,000 | 227,500 | 43,600 | 150,100 | 474,000 |

RANDOLPH COUNTY

| | | | | | | |
|---|---|---|---|---|---|---|
| Medium saw-timber | --- | 10,500 | 38,600 | --- | 6,200 | 55,300 |
| Small saw-timber | --- | 17,300 | 81,900 | 12,900 | 64,700 | 176,800 |
| Pole-timber | 3,700 | 3,700 | 137,400 | 6,500 | 65,400 | 216,700 |
| Seedling and sapling | --- | 6,200 | 30,900 | --- | 15,500 | 52,600 |
| Poorly-stocked stands and unstocked areas | --- | --- | 12,800 | --- | 9,200 | 22,000 |
| All stands | 3,700 | 37,700 | 301,600 | 19,400 | 161,000 | 523,400 |

ALL COUNTIES

| | | | | | | |
|---|---|---|---|---|---|---|
| Medium saw-timber | 10,700 | 36,400 | 109,200 | 15,500 | 53,900 | 225,700 |
| Small saw-timber | 13,500 | 30,600 | 184,500 | 99,200 | 177,000 | 504,800 |
| Pole-timber | 32,900 | 7,600 | 241,300 | 20,300 | 157,100 | 459,200 |
| Seedling and sapling | 4,000 | 6,200 | 54,400 | 4,900 | 33,200 | 102,700 |
| Poorly-stocked stands and unstocked areas | --- | 11,900 | 22,400 | --- | 9,200 | 43,500 |
| All stands | 61,100 | 92,700 | 611,800 | 139,900 | 430,400 | 1,335,900 |

PENDLETON, POCAHONTAS, AND RANDOLPH COUNTIES, WEST VIRGINIA

Table 3.--Area of commercial forest land by forest site and stand size, 1947

| Stand-size class | Site class | | | Total |
|---|---|---|---|---|
| | Good | Fair | Poor | |
| | Acres | Acres | Acres | Acres |
| Medium saw-timber stands | 13,500 | 206,700 | 5,300 | 225,500 |
| Light saw-timber stands | 17,700 | 387,400 | 99,900 | 505,000 |
| Pole-timber stands | 3,700 | 376,500 | 79,000 | 459,200 |
| Seedling and sapling stands | --- | 70,400 | 32,300 | 102,700 |
| Poorly-stocked stands and unstocked areas | --- | 32,100 | 11,400 | 43,500 |
| All stands | 34,900 | 1,073,100 | 227,900 | 1,335,900 |

Table 4.—Area of commercial forest land by watershed and stand size, 1947

| Stand-size | Watershed | | | All Watersheds |
|---|---|---|---|---|
| | Potomac River | Monongahela River | Kanawha River | |
| | Acres | Acres | Acres | Acres |
| Medium saw-timber | 100,000 | 64,200 | 61,500 | 225,700 |
| Small saw-timber | 137,600 | 168,300 | 198,900 | 504,800 |
| Pole-timber | 73,900 | 203,100 | 182,200 | 459,200 |
| Seedling and sapling | 15,900 | 52,600 | 34,200 | 102,700 |
| Poorly-stocked stands and unstocked areas | 11,100 | 22,000 | 10,400 | 43,500 |
| All stands | 338,500 | 510,200 | 487,200 | 1,335,900 |

Table 5.--Board foot volume[1/] of saw-timber trees on commercial forest land by forest type, stand-size, and species group, 1947

| Stand-size and species group | Forest type | | | | | All forest types |
|---|---|---|---|---|---|---|
| | Pine-hardwood | Spruce-fir hardwood | Northern hardwood | Chestnut oak | White oak | |
| | M bd.ft. | M bd.ft. | M bd.ft. | M bd.ft. | M bd.ft. | M bd.ft. |
| Medium saw-timber: | | | | | | |
| Softwood | 34,800 | 212,900 | 125,800 | 11,300 | 10,500 | 395,300 |
| Hardwood | 47,500 | 52,800 | 1,049,600 | 170,700 | 473,500 | 1,794,100 |
| Total | 82,300 | 265,700 | 1,175,400 | 182,000 | 484,000 | 2,189,400 |
| Light saw-timber: | | | | | | |
| Softwood | 28,500 | 58,300 | 68,300 | 11,000 | 16,300 | 182,400 |
| Hardwood | 9,700 | 42,200 | 862,700 | 304,900 | 753,900 | 1,973,400 |
| Total | 38,200 | 100,500 | 931,000 | 315,900 | 770,200 | 2,155,800 |
| Pole-timber: | | | | | | |
| Softwood | 13,700 | 17,600 | 34,400 | --- | 3,200 | 68,900 |
| Hardwood | 9,600 | --- | 345,600 | 33,900 | 238,900 | 628,000 |
| Total | 23,300 | 17,600 | 380,000 | 33,900 | 242,100 | 696,900 |
| Other stands: | | | | | | |
| Softwood | --- | --- | --- | --- | --- | --- |
| Hardwood | --- | --- | 7,800 | --- | 7,200 | 15,000 |
| Total | --- | --- | 7,800 | --- | 7,200 | 15,000 |
| All stands: | | | | | | |
| Softwood | 77,000 | 288,800 | 228,500 | 22,300 | 30,000 | 646,600 |
| Hardwood | 66,800 | 95,000 | 2,265,700 | 509,500 | 1,473,500 | 4,410,500 |
| Total | 143,800 | 383,800 | 2,494,200 | 531,800 | 1,503,500 | 5,057,100 |

1/ Log scale, International 1/4-inch rule

Table 6.--Cubic foot volume[1/] of saw-timber and pole-timber trees on commercial forest land by forest type, stand size, and species group, 1947

| Stand-size and species group | Forest type: Pine-hardwood | Spruce-fir hardwood | Northern hardwood | Chestnut oak | White oak | All forest types |
|---|---|---|---|---|---|---|
| | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. |
| Medium saw-timber: | | | | | | |
| Softwood | 6,500 | 48,600 | 23,800 | 2,200 | 2,200 | 83,300 |
| Hardwood | 12,000 | 14,200 | 235,400 | 37,300 | 105,200 | 404,100 |
| Total | 18,500 | 62,800 | 259,200 | 39,500 | 107,400 | 487,400 |
| Light saw-timber: | | | | | | |
| Softwood | 6,400 | 19,000 | 14,500 | 3,000 | 4,300 | 47,200 |
| Hardwood | 4,600 | 11,100 | 234,600 | 86,000 | 200,100 | 536,400 |
| Total | 11,000 | 30,100 | 249,100 | 89,000 | 204,400 | 583,600 |
| Pole-timber: | | | | | | |
| Softwood | 6,600 | 9,800 | 11,500 | --- | 1,200 | 29,100 |
| Hardwood | 8,000 | 300 | 161,700 | 11,900 | 92,000 | 273,900 |
| Total | 14,600 | 10,100 | 173,200 | 11,900 | 93,200 | 303,000 |
| Other stands: | | | | | | |
| Softwood | --- | 900 | 200 | --- | 400 | 1,500 |
| Hardwood | 100 | 800 | 9,400 | 400 | 5,000 | 15,700 |
| Total | 100 | 1,700 | 9,600 | 400 | 5,400 | 17,200 |
| All stands: | | | | | | |
| Softwood | 19,500 | 78,300 | 50,000 | 5,200 | 8,100 | 161,100 |
| Hardwood | 24,700 | 26,400 | 641,100 | 135,600 | 402,300 | 1,230,100 |
| Total | 44,200 | 104,700 | 691,100 | 140,800 | 410,400 | 1,391,200 |

1/ Excluding bark

Table 7.—Board foot volume[1/] per acre of saw-timber trees on commercial forest land by forest type, stand-size, and species group, 1947

| Stand-size and species group | Forest type | | | | | All forest types |
|---|---|---|---|---|---|---|
| | Pine-hardwood | Spruce-fir hardwood | Northern hardwood | Chestnut oak | White oak | |
| | Bd.ft. | Bd.ft. | Bd.ft. | Bd.ft. | Bd.ft. | Bd.ft. |
| Medium saw-timber: | | | | | | |
| Softwood | 3,250 | 5,850 | 1,150 | 730 | 200 | 1,750 |
| Hardwood | 4,440 | 1,450 | 9,610 | 11,010 | 8,780 | 7,950 |
| Total | 7,690 | 7,300 | 10,760 | 11,740 | 8,980 | 9,700 |
| Light saw-timber: | | | | | | |
| Softwood | 2,110 | 1,900 | 370 | 110 | 90 | 360 |
| Hardwood | 720 | 1,380 | 4,680 | 3,070 | 4,260 | 3,910 |
| Total | 2,830 | 3,280 | 5,050 | 3,180 | 4,350 | 4,270 |
| Pole-timber: | | | | | | |
| Softwood | 410 | 2,320 | 140 | --- | 20 | 150 |
| Hardwood | 300 | --- | 1,430 | 1,670 | 1,520 | 1,370 |
| Total | 710 | 2,320 | 1,570 | 1,670 | 1,540 | 1,520 |
| Other stands: | | | | | | |
| Softwood | --- | --- | --- | --- | --- | --- |
| Hardwood | --- | --- | 100 | --- | 170 | 100 |
| Total | --- | --- | 100 | --- | 170 | 100 |
| All stands: | | | | | | |
| Softwood | 1,260 | 3,120 | 370 | 160 | 70 | 490 |
| Hardwood | 1,090 | 1,020 | 3,710 | 3,640 | 3,420 | 3,300 |
| Total | 2,350 | 4,140 | 4,080 | 3,800 | 3,490 | 3,790 |

1/ Log scale, International 1/4-inch rule

Table 8.--Cubic foot volume[1/] per acre of saw-timber and pole-timber trees on commercial forest land by forest type, stand-size, and species group, 1947

| Stand-size and species group | Forest type | | | | | All forest types |
|---|---|---|---|---|---|---|
| | Pine-hardwood | Spruce-fir hardwood | Northern hardwood | Chestnut oak | White oak | |
| | Cu.ft. | Cu.ft. | Cu.ft. | Cu.ft. | Cu.ft. | Cu.ft. |
| Medium saw-timber: | | | | | | |
| Softwood | 610 | 1,340 | 220 | 140 | 40 | 370 |
| Hardwood | 1,120 | 390 | 2,150 | 2,410 | 1,950 | 1,790 |
| Total | 1,730 | 1,730 | 2,370 | 2,550 | 1,990 | 2,160 |
| Light saw-timber: | | | | | | |
| Softwood | 470 | 620 | 80 | 30 | 20 | 100 |
| Hardwood | 340 | 360 | 1,270 | 870 | 1,130 | 1,060 |
| Total | 810 | 980 | 1,350 | 900 | 1,150 | 1,160 |
| Pole-timber: | | | | | | |
| Softwood | 200 | 1,290 | 50 | --- | 10 | 60 |
| Hardwood | 240 | 40 | 670 | 590 | 580 | 600 |
| Total | 440 | 1,330 | 720 | 590 | 590 | 660 |
| Other stands: | | | | | | |
| Softwood | --- | 50 | --- | --- | 10 | 10 |
| Hardwood | 30 | 40 | 120 | 80 | 120 | 110 |
| Total | 30 | 90 | 120 | 80 | 130 | 120 |
| All stands: | | | | | | |
| Softwood | 320 | 850 | 80 | 40 | 20 | 120 |
| Hardwood | 400 | 280 | 1,050 | 970 | 930 | 920 |
| Total | 720 | 1,130 | 1,130 | 1,010 | 950 | 1,040 |

1/ Excluding bark

Table 9.--Board foot volume[1/] per acre of saw-timber trees on commercial forest land by county, stand-size, and species group, 1947

| Stand-size and species group | Pendleton | Pocahontas | Randolph | All counties |
|---|---|---|---|---|
| | Bd.ft. | Bd.ft. | Bd.ft. | Bd.ft. |
| Medium saw-timber: | | | | |
| Softwood | 1,690 | 2,560 | 830 | 1,750 |
| Hardwood | 6,360 | 7,620 | 11,240 | 7,950 |
| Total | 8,050 | 10,180 | 12,070 | 9,700 |
| Light saw-timber: | | | | |
| Softwood | 370 | 410 | 300 | 360 |
| Hardwood | 3,350 | 4,330 | 3,900 | 3,910 |
| Total | 3,720 | 4,740 | 4,200 | 4,270 |
| Pole-timber: | | | | |
| Softwood | 180 | 250 | 60 | 150 |
| Hardwood | 480 | 1,570 | 1,510 | 1,370 |
| Total | 660 | 1,820 | 1,570 | 1,520 |
| Other stands: | | | | |
| Softwood | --- | --- | --- | --- |
| Hardwood | --- | 100 | 140 | 100 |
| Total | --- | 100 | 140 | 100 |
| All stands: | | | | |
| Softwood | 690 | 630 | 220 | 490 |
| Hardwood | 3,340 | 3,440 | 3,150 | 3,300 |
| Total | 4,030 | 4,070 | 3,370 | 3,790 |

1/ Log scale, International 1/4-inch rule

Table 10.--Cubic foot volume[1/] per acre of saw-timber and pole-timber trees on commercial forest land by county, stand size, and species group, 1947

| Stand size and species group | Pendleton | Pocahontas | Randolph | All counties |
|---|---|---|---|---|
| | Cu.ft. | Cu.ft. | Cu.ft. | Cu.ft. |
| Medium saw-timber: | | | | |
| Softwood | 320 | 570 | 210 | 370 |
| Hardwood | 1,470 | 1,720 | 2,440 | 1,790 |
| Total | 1,790 | 2,290 | 2,650 | 2,160 |
| Light saw-timber: | | | | |
| Softwood | 90 | 110 | 80 | 100 |
| Hardwood | 890 | 1,150 | 1,100 | 1,060 |
| Total | 980 | 1,260 | 1,180 | 1,160 |
| Pole-timber: | | | | |
| Softwood | 80 | 100 | 30 | 60 |
| Hardwood | 360 | 560 | 710 | 600 |
| Total | 440 | 660 | 740 | 660 |
| Other stands: | | | | |
| Softwood | 30 | --- | 10 | 10 |
| Hardwood | 30 | 110 | 130 | 110 |
| Total | 60 | 110 | 140 | 120 |
| All stands: | | | | |
| Softwood | 150 | 160 | 60 | 120 |
| Hardwood | 880 | 930 | 940 | 920 |
| Total | 1,030 | 1,090 | 1,000 | 1,040 |

1/ Excluding bark

Table 11.--Board foot volume of saw-timber trees on commercial forest land by stand size and species, 1947

| Species | Saw-timber stands | Pole-timber stands | Other stands | Total |
|---|---|---|---|---|
| | M bd.ft. | M bd.ft. | M bd.ft. | M bd.ft. |
| Softwoods: | | | | |
| Spruce | 320,400 | 21,800 | --- | 342,200 |
| Hemlock | 92,100 | 24,700 | --- | 116,800 |
| White pine | 108,600 | 10,400 | --- | 119,000 |
| Other softwoods | 56,600 | 12,000 | --- | 68,600 |
| All softwoods | 577,700 | 68,900 | --- | 646,600 |
| Hardwoods: | | | | |
| Hard maple | 383,400 | 61,800 | 2,600 | 447,800 |
| Red maple | 243,600 | 29,900 | --- | 273,500 |
| Red oak | 769,000 | 177,200 | 1,900 | 948,100 |
| White oak | 95,400 | 45,800 | --- | 141,200 |
| Chestnut oak | 639,100 | 42,500 | 5,300 | 686,900 |
| Hickory | 149,000 | 16,700 | --- | 165,700 |
| Yellow birch | 390,000 | 39,300 | --- | 429,300 |
| Beech | 441,100 | 81,000 | 4,700 | 526,800 |
| Basswood | 207,200 | 17,100 | --- | 224,300 |
| Black cherry | 81,500 | 14,300 | --- | 95,800 |
| Yellow poplar | 55,000 | 42,800 | 500 | 98,300 |
| Cucumber | 70,900 | 8,100 | --- | 79,000 |
| Black locust | 72,900 | 9,000 | --- | 81,900 |
| Other hardwoods 1/ | 169,400 | 42,500 | --- | 211,900 |
| All hardwoods | 3,767,500 | 628,000 | 15,000 | 4,410,500 |
| All species 2/ | 4,345,200 | 696,900 | 15,000 | 5,057,100 |

1/ Total board foot volume of other hardwoods is made up of: yellow buckeye 26%, red gum 22%, ash 19%, black gum 14%, elm 8%, and miscellaneous 11%

2/ In addition, there is 462,600 M bd.ft. of dead chestnut: 346,900 in saw-timber stands, 113,000 in pole-timber stands, and 2,700 in poorly stocked stands and denuded areas.

Table 12.—Cubic foot volume of saw-timber and pole-timber trees on commercial forest land by stand size and species, 1947

| Species | Saw-timber stands | Pole-timber stands | Other stands | Total |
|---|---|---|---|---|
| | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. |
| Softwoods: | | | | |
| Spruce | 79,400 | 13,500 | 900 | 93,800 |
| Hemlock | 18,300 | 7,000 | 200 | 25,500 |
| White pine | 19,800 | 3,300 | --- | 23,100 |
| Other softwoods | 13,000 | 5,300 | 400 | 18,700 |
| All softwoods | 130,500 | 29,100 | 1,500 | 161,100 |
| Hardwoods: | | | | |
| Hard maple | 90,900 | 18,900 | 900 | 110,700 |
| Red maple | 70,500 | 24,200 | 2,700 | 97,400 |
| Red oak | 174,200 | 55,900 | 1,700 | 231,800 |
| White oak | 31,800 | 14,000 | --- | 45,800 |
| Chestnut oak | 163,200 | 27,600 | 3,700 | 194,500 |
| Hickory | 39,600 | 9,700 | 300 | 49,600 |
| Yellow birch | 100,000 | 26,200 | 1,200 | 127,400 |
| Beech | 107,500 | 30,200 | 2,100 | 139,800 |
| Basswood | 48,500 | 8,600 | --- | 57,100 |
| Black cherry | 16,400 | 3,100 | --- | 19,500 |
| Yellow poplar | 14,200 | 11,900 | 400 | 26,500 |
| Cucumber | 14,400 | 1,700 | --- | 16,100 |
| Black locust | 15,800 | 1,900 | --- | 17,700 |
| Other hardwoods 1/ | 53,500 | 40,000 | 2,700 | 96,200 |
| All hardwoods | 940,500 | 273,900 | 15,700 | 1,230,100 |
| All species 2/ | 1,071,000 | 303,000 | 17,200 | 1,391,200 |

1/ Total cubic foot volume of other hardwoods is made up of: ash 32%, red gum 22%, yellow buckeye 19%, black gum 10%, elm 7%, and miscellaneous 10%.

2/ In addition, there is 96,900 M cu.ft. of dead chestnut.

Table 13.—Board foot volume of saw-timber trees on commercial forest land by county and species, 1947

| Species | Pendleton | Pocahontas | Randolph | Total |
|---|---|---|---|---|
| | M bd.ft. | M bd.ft. | M bd.ft. | M bd.ft. |
| Softwoods: | | | | |
| Spruce | 44,900 | 206,600 | 90,700 | 342,200 |
| Hemlock | 59,400 | 34,800 | 22,600 | 116,800 |
| White pine | 79,500 | 39,500 | --- | 119,000 |
| Other softwoods | 49,300 | 19,300 | --- | 68,600 |
| All softwoods | 233,100 | 300,200 | 113,300 | 646,600 |
| Hardwoods: | | | | |
| Hard maple | 99,400 | 250,200 | 98,200 | 447,800 |
| Red maple | 33,100 | 146,000 | 94,400 | 273,500 |
| Red oak | 370,000 | 232,500 | 345,600 | 948,100 |
| White oak | 45,600 | 84,100 | 11,500 | 141,200 |
| Chestnut oak | 415,400 | 166,600 | 104,900 | 686,900 |
| Hickory | 31,500 | 61,000 | 73,200 | 165,700 |
| Yellow birch | 27,500 | 198,500 | 203,300 | 429,300 |
| Beech | --- | 199,800 | 327,000 | 526,800 |
| Basswood | 50,900 | 68,400 | 105,000 | 224,300 |
| Black cherry | 2,300 | 9,100 | 84,400 | 95,800 |
| Yellow poplar | --- | 8,100 | 90,200 | 98,300 |
| Cucumber | 1,400 | 66,600 | 11,000 | 79,000 |
| Black locust | 25,800 | 51,200 | 4,900 | 81,900 |
| Other hardwoods | 29,700 | 88,000 | 94,200 | 211,900 |
| All hardwoods | 1,132,600 | 1,630,100 | 1,647,800 | 4,410,500 |
| All species[1/] | 1,365,700 | 1,930,300 | 1,761,100 | 5,057,100 |

1/ In addition, there is 79,400 M bd.ft. of dead chestnut in Pendleton County, 224,900 M bd.ft. in Pocahontas County, and 158,300 M bd.ft. in Randolph County

Table 14.—Cubic foot volume of saw-timber and pole-timber trees on commercial forest land by species, 1947

for each county

| Species | Pendleton | Pocahontas | Randolph | Total |
|---|---|---|---|---|
| | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. |
| Softwoods: | | | | |
| Spruce | 9,800 | 57,500 | 26,500 | 93,800 |
| Hemlock | 12,000 | 7,800 | 5,700 | 25,500 |
| White pine | 16,000 | 7,100 | --- | 23,100 |
| Other softwoods | 13,700 | 5,000 | --- | 18,700 |
| All softwoods | 51,500 | 77,400 | 32,200 | 161,100 |
| Hardwoods: | | | | |
| Hard maple | 26,100 | 56,000 | 28,600 | 110,700 |
| Red maple | 10,000 | 45,400 | 42,000 | 97,400 |
| Red oak | 86,300 | 61,600 | 83,900 | 231,800 |
| White oak | 13,500 | 21,600 | 10,700 | 45,800 |
| Chestnut oak | 110,100 | 45,100 | 39,300 | 194,500 |
| Hickory | 11,800 | 16,900 | 20,900 | 49,600 |
| Yellow birch | 8,200 | 56,400 | 62,800 | 127,400 |
| Beech | 300 | 57,700 | 81,800 | 139,800 |
| Basswood | 12,900 | 18,000 | 26,200 | 57,100 |
| Black cherry | 500 | 1,800 | 17,200 | 19,500 |
| Yellow poplar | 100 | 2,500 | 23,900 | 26,500 |
| Cucumber | 400 | 13,500 | 2,200 | 16,100 |
| Black locust | 6,000 | 10,500 | 1,200 | 17,700 |
| Other hardwoods | 10,900 | 33,200 | 52,100 | 96,200 |
| All hardwoods | 297,100 | 440,200 | 492,800 | 1,230,100 |
| All species[1/] | 348,600 | 517,600 | 525,000 | 1,391,200 |

1/ In addition, there is 17,300 M cu.ft. of dead chestnut in Pendleton County, 46,500 M cu.ft. in Pocahontas County, and 33,100 M cu.ft. in Randolph County

Table 15.—Cubic foot volume of saw-timber and pole-timber trees on commercial forest land by tree size, kind of material, and species, 1947

| Species | Saw-timber trees: Sawlog material | Saw-timber trees: Upper stems and limbs | Pole-timber trees | Cull trees | Total |
|---|---|---|---|---|---|
| | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. |
| Softwoods: | | | | | |
| Spruce | 57,100 | 11,200 | 25,500 | 100 | 93,900 |
| Hemlock | 17,800 | 3,000 | 4,700 | 400 | 25,900 |
| White pine | 18,500 | 2,300 | 2,300 | 6,200 | 29,300 |
| Other softwoods | 11,100 | 2,300 | 5,300 | 700 | 19,400 |
| All softwoods | 104,500 | 18,800 | 37,800 | 7,400 | 168,500 |
| Hardwoods: | | | | | |
| Hard maple | 65,000 | 21,100 | 24,600 | 24,700 | 135,400 |
| Red maple | 39,200 | 15,600 | 42,600 | 6,800 | 104,200 |
| Red oak | 137,100 | 51,900 | 42,800 | 9,100 | 240,900 |
| White oak | 20,600 | 9,300 | 15,900 | 1,600 | 47,400 |
| Chestnut oak | 101,000 | 49,200 | 44,300 | 26,400 | 220,900 |
| Hickory | 24,400 | 9,300 | 15,900 | 1,100 | 50,700 |
| Yellow birch | 61,300 | 24,800 | 41,300 | 13,600 | 141,000 |
| Beech | 79,000 | 27,500 | 33,300 | 19,800 | 159,600 |
| Basswood | 33,700 | 10,300 | 13,100 | 5,000 | 62,100 |
| Black cherry | 14,500 | 5,000 | 1/ | 200 | 19,700 |
| Yellow poplar | 14,500 | 5,100 | 6,900 | 700 | 27,200 |
| Cucumber | 11,900 | 4,200 | 1/ | --- | 16,100 |
| Black locust | 12,400 | 5,300 | 1/ | --- | 17,700 |
| Other hardwoods | 31,400 | 13,400 | 51,400 | 7,600 | 103,800 |
| All hardwoods | 646,000 | 252,000 | 332,100 | 116,600 | 1,346,700 |
| All species | 750,500 | 270,800 | 369,900 | 124,000 | 1,515,200 |

1/ Pole-timber trees of these species were tallied under "other hardwoods"

Table 16.--Board foot volume of saw-timber trees on commercial forest land by species group and diameter class, 1947

SOFTWOODS

| Diameter class (inches) | Pendleton | Pocahontas | Randolph | Total |
|---|---|---|---|---|
| | M bd.ft. | M bd.ft. | M bd.ft. | M bd.ft. |
| 10 | 30,000 | 65,000 | 35,100 | 130,100 |
| 12 | 24,900 | 72,600 | 38,000 | 135,500 |
| 14 | 40,900 | 84,300 | 14,800 | 140,000 |
| 16 | 62,700 | 24,500 | 10,000 | 97,200 |
| 18 | 26,000 | 40,000 | 3,200 | 69,200 |
| 20 & over | 48,600 | 13,800 | 12,200 | 74,600 |
| All softwoods | 233,100 | 300,200 | 113,300 | 646,600 |

HARDWOODS

| | | | | |
|---|---|---|---|---|
| 12 | 129,400 | 245,100 | 289,500 | 664,000 |
| 14 | 164,500 | 316,000 | 268,100 | 748,600 |
| 16 | 159,300 | 228,600 | 288,900 | 676,800 |
| 18 | 179,400 | 226,700 | 230,400 | 636,500 |
| 20 | 148,000 | 211,300 | 200,900 | 560,200 |
| 22 | 86,900 | 119,100 | 66,200 | 272,200 |
| 24 | 49,000 | 39,300 | 21,100 | 109,400 |
| 26 | 64,700 | 66,000 | 118,300 | 249,000 |
| 28 | --- | 73,700 | 93,300 | 167,000 |
| 30 & over | 151,400 | 104,300 | 71,100 | 326,800 |
| All hardwoods | 1,132,600 | 1,630,100 | 1,647,800 | 4,410,500 |
| All species | 1,365,700 | 1,930,300 | 1,761,100 | 5,057,100 |

Table 17.--Cubic foot volume of saw-timber trees on commercial forest land by species group and diameter class, 1947

SOFTWOODS

| Diameter class (inches) | Pendleton | Pocahontas | Randolph | Total |
|---|---|---|---|---|
| | M cu.ft. | M cu.ft. | M cu.ft. | M cu.ft. |
| 6 | 4,700 | 5,400 | 3,200 | 13,300 |
| 8 | 4,700 | 13,800 | 6,100 | 24,600 |
| 10 | 7,300 | 15,800 | 8,600 | 31,700 |
| 12 | 4,900 | 14,100 | 7,600 | 26,600 |
| 14 | 7,400 | 15,400 | 2,600 | 25,400 |
| 16 | 10,600 | 4,200 | 1,700 | 16,500 |
| 18 | 4,300 | 6,500 | 500 | 11,300 |
| 20 & over | 7,600 | 2,200 | 1,900 | 11,700 |
| All softwoods | 51,500 | 77,400 | 32,200 | 161,100 |

HARDWOODS

| | | | | |
|---|---|---|---|---|
| 6 | 16,000 | 27,800 | 46,700 | 90,500 |
| 8 | 19,400 | 38,700 | 53,700 | 111,800 |
| 10 | 24,100 | 44,500 | 61,200 | 129,800 |
| 12 | 30,700 | 54,800 | 64,800 | 150,300 |
| 14 | 36,400 | 67,400 | 57,500 | 161,300 |
| 16 | 32,300 | 46,100 | 57,000 | 135,400 |
| 18 | 37,000 | 44,400 | 44,600 | 126,000 |
| 20 | 31,200 | 40,600 | 38,200 | 110,000 |
| 22 | 17,100 | 22,500 | 12,400 | 52,000 |
| 24 | 10,000 | 7,800 | 4,500 | 22,300 |
| 26 | 12,900 | 12,300 | 21,600 | 46,800 |
| 28 | --- | 13,700 | 17,800 | 31,500 |
| 30 & over | 30,000 | 19,600 | 12,800 | 62,400 |
| All hardwoods | 297,100 | 440,200 | 492,800 | 1,230,100 |
| All species | 348,600 | 517,600 | 525,000 | 1,391,200 |

## EXPLANATION OF TERMS USED

Forest Land - Land bearing forest growth or land from which the forest has been removed but which shows evidence of past forest occupancy and which is not now in other use. Narrow belts of trees such as fence rows and stream margins less than 100 feet in width and small groups of trees less than one acre in area that are surrounded by nonforest land are considered nonforest.

Commercial forest land - Forest land bearing or capable of bearing timber of commercial character and economically available now or prospectively for commercial use and not withdrawn from such use.

Noncommercial forest land - Two classes are included: (1) commercially valuable forest land actually withdrawn from commercial use for parks, preserves, wilderness areas, and so forth; and (2) other land which owing to very low productivity or excessively poor quality timber appears to be permanently out of the commercial timber producing class.

Forest Types

Pine - hardwood - This type is made up of white pine, white pine - hardwood, hemlock, and hard pine - oak types. Pine or hemlock comprises 50 percent or more of the stand. The principal associates are chestnut oak and red oak.

Spruce - fir - hardwood - Red spruce makes up 50 percent or more of the stand. The principal associates are yellow birch, beech, white pine, and hemlock.

Northern hardwood - This type includes the aspen - gray birch - pin cherry, hardwood - white pine, and hardwood - spruce - fir together with the sugar maple - beech - yellow birch type. Sugar maple, beech, and yellow birch generally dominate these types. The principal associates are red maple, basswood, red oak, hemlock, black cherry, and black birch. A small area of bottomland hardwoods has been included with this type.

Chestnut oak - Chestnut oak dominates this type. The principal associates are red oak, white pine, cucumber, and hickory.

White oak - The oaks dominate this type. Red oak, chestnut oak, and white oak are the most important species. The principal associates are hickory, sugar maple, red maple, black oak, and yellow poplar.

Stand-size Classes

Medium saw timber - Stands having a net volume per acre of 5,000 board feet or more.

Light saw timber - Stands having a net volume of 1,500 to 5,000 board feet per acre.

Pole timber - Stands having a net volume of less than 1,500 board feet per acre but that are at least 10 percent stocked with pole-timber or larger trees.

Seedling and Sapling - Stands not qualifying either for saw timber or pole timber but with at least 40 percent of the area covered by the crown canopy of commercial species.

Poorly-stocked stands and unstocked areas - Stands not qualifying for other classes and having less than 40 percent of the area covered by the crown canopy of commercial species.

Volume Estimates

Board-foot volume - Includes the volume of that portion of saw-timber trees merchantable for sawlogs. Volume deductions have been made for rot, crook, and other defects. Board-foot volumes are shown in the International 1/4 inch log rule, which approximates green lumber tally.

Cubic-foot volume - Includes the volume of sound wood in: (1) the sawlog portion of sound trees, (2) the upper stems of saw-timber softwoods, and the upper stems and limbs of saw-timber hardwoods to a minimum diameter of 4 inches inside bark, and (3) pole-timber trees to a minimum diameter of 4 inches inside bark.

Tree Classes

Pole-timber tree - Trees that range from 5.0 inches d.b.h. (diameter outside bark at 4 1/2 feet above the ground) up to the minimum saw-timber size and that now are or give promise of becoming a sound merchantable tree.

Saw-timber tree - Softwood trees at least 9.0 inches d.b.h. and hardwood trees at least 11.0 inches d.b.h. with a sound butt log at least 8 feet long, or with at least half of the gross volume of the tree in sound material.

Cull tree - A tree that does not qualify as a sound pole-timber or saw-timber tree because of poor form, limbiness, rot, or other defect.

Tree - diameter class - Each two-inch diameter class includes all trees measuring 1.0 inches below and 0.9 inches above the midpoint of the class. For example, the six-inch class includes all trees whose d.b.h. falls in the range of 5.0 inches to 6.9 inches inclusive.

Species group

Softwoods - Includes the following coniferous species:

| | | |
|---|---|---|
| Spruce, red | - Picea rubra | |
| Hemlock | - Tsuga canadensis | |
| White pine | - Pinus strobus | |
| Other softwoods | - Shortleaf pine | - Pinus echinata |
| | - Pitch pine | - Pinus rigida |
| | - Scrub pine | - Pinus virginiana |

Hardwoods

| | | |
|---|---|---|
| Hard maple | - Acer saccharum | |
| Red maple | - Acer rubrum | |
| Red oak | - Quercus borealis | |
| White oak | - Quercus alba | |
| Chestnut oak | - Quercus montana | |
| Hickory | - Hicoria glabra | |
| | - Hicoria alba | |
| Yellow birch | - Betula lutea | |
| Beech | - Fagus grandifolia | |
| Basswood | - Tilia glabra | |
| Black cherry | - Prunus serotina | |
| Yellow poplar | - Liriodendron tulipifera | |
| Cucumber | - Magnolia acuminata | |
| Black locust | - Robinia pseudoacacia | |
| Other hardwoods | - Yellow buckeye | - Aesculus octandra |
| | - Red gum | - Liquidambar styraciflua |
| | - Black gum | - Nyssa sylvatica |
| | - Elm | - Ulmus americana |